

## Optical Identification and Clustering Properties of Non-Cluster, Moderate-Power Radio Sources

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We have selected a sample of 45 radio sources complete to 35 mJy at 1.4 GHz, in a 12 square-degree area centered at  $\alpha \approx 9^h 30^m$  and  $\delta \approx 47^\circ$ , from a recent VLA survey of Condon, Dickey & Salpeter (1990, AJ, 99, 1071). As shown in their paper, the area is devoid of rich Abell clusters at  $z < 0.4$ , and the majority of our sample sources are associated neither with nearby galaxies at  $z \lesssim 0.2$  nor with known distant rich Abell clusters at  $z$  roughly between 0.4 and 1. Consequently, our sample comprises primarily non-cluster radio sources with  $z > 0.2$ .

As the first step towards a complete radio, optical and near-IR study on the sample, we have further obtained VLA C-array maps at 5 GHz and optical CCD images ( $4'.4 \times 4'.4$ ) in V, R, and I bands for all the sample sources. 36 radio galaxies and two QSOs are optically identified with high confidence, down to a limiting magnitude of  $R \sim 24$ . We are in the process of obtaining near-IR K-band images for the sample. Based on the observed R magnitudes (and K magnitudes when available), most of the optically identified radio galaxies are likely to have redshifts around unity, making them a population of typical FR II-type radio galaxies (with a radio power about 10 times larger than the threshold power for FR II type).

We are currently compiling catalogs of optical galaxies in each CCD field down to  $R \sim 24$  mag, with magnitudes, colors and morphological parameters for a statistical analysis of clustering around the radio sources. Although most of our radio sources are not in rich clusters, some mild clustering is apparent. We shall report more quantitative results at the meeting.